APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515110008-0"

GILYAROV, M.S., doktor biolog.nauk

Ninth Congress of German Entomologists. Vest. AN SSSR 31 no.10:118 O '61. (MIRA 14:9)

(Entomology--Congresses)

SUSHCHINSKIY, M.M., doktor fiz.-matem.nauk; OBUKHOV, A.M.; GILYAROV, M.S., doktor biolog.nauk; TAFT, V.A., doktor tekhn.nauk; GLEMBOTSKIY, V.G., doktor tekhn.nauk; OLOFINSKIY, N.F., kand. tekhn.nauk

Scientific contacts with foreign countries. Vest. AN SSSR 31 no.12:101-105 D '61. (MIRA 14:12)

1. Chlen-korrespondent AN SSSR (for Obukhov).
(Science—Congresses)

GILYAROV, M.S.

International Symposium on Soil Fauna. Zool. zhur. 40 no. 2:302-303 F '61. (MIRA 14:2)
(Soil fauna--Congresses) (Arthropoda)

GILYAROV, M.S.

"Thecamoebae of soils" [in French] by Louis Bonnet, Raymond Thomas. Reviewed by M.S.Gilliarov. Zool. zhur. 40 no.9:1430-1431 S '61. (MIRA 14:8)

(Pyrenees-Orientales--Amoeba) (Soil fauna)
(Bonnet, Louis) (Thomas, Raymond)

GILYAROV, M.S.

Anniversary congress of German entomologists and some zoological institutions of the German Democratic Republic. Zool. zhur. 40 no.11:1753-1755 N '61. (MIRA 14:11)
(Entomology--Congresses) (Germany, East--Zoological research)

MAMAYEV, Boris Mikhaylovich; GILYAROV, M.S., doktor biol. nauk, otv. red.; MESSNER, O.M., red. izd-va; MAKOGONOVA, I.A., tekhn.red.

[Gall midges, their biology and economic significance]Gallitsy, ikh biologiia i khoziaistvennoe znanhenie. Moskva, Izd-vo Akad. nauk SSSR, 1962. 71 p. (MIRA 15:12)
(Gall gnats)

NARZIKULOV, Mukhamedkul Narzikulovich; GILYAROV, M.S., retsenzent; SMIRNOV, Ye.S., retsenzent; SHAPOSHNIKOV, G.Kh., retsenzent; LUPPOVA, Ye.P., otv.red.; VINOGRADSKAYA, S.N., red.izd-va; GELLER, S.P., tekhn.red.

[Fauna of the Tajik S.S.R. Vol. 9, no.1. Plant lice (Homoptera, Aphididae) of Tajikistan and adjacent republics of Central Asia.] Tli (Homoptera, Aphididae) Tadzhikistana i sopredel'nykh respublik Srednei Azii. Dushanbe, 1962. 271 p. (Akademiia nauk Tadzhikskoi SSR. Institut zoologii i parazitologii. Trudy, vol.25. Fauna Tadzhikskoi SSR, vol.9, no.1). (MIRA 17:2)

GILYAROV, M.S.

Tasks in the field of controlled reorganization of soil fauna.
Vop. ekol. 4:21-22 '62. (MIRA 15:11)

1. Institut morfologii zhivotnykh imeni A.N.Severtsova, Moskva.
(Soil fauna)

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GILYAROV, M.S.

Changes in the composition of the soil fauna of the steppe under the influence of afforestation as an indicator of changes in the hydrothermal conditions of soils. Probl. bot. 6:346-353 '62.
(MI A 16:5)

(Belovodsk District--Soil fauna) (Forest influences)

GILYAROV, M.S.

Symposium on soil fauna in Kiev. Pochvovedenie no.9:116 S '62. (MIRA 16:1)

(Soil fauna--Congresses)

GILYAROV, M.S., doktor biologicheskikh nauk

In the Laboratory of Soil Fauna. Zashch. rast. ot vred. i bol. 7 no.1:58-59 '62. (MIRA 15:6)

1. Zaveduyushchiy laboratoriyey pochvennoy zoologii Instituta morfologii zhivotnykh im. A.N. Severtsova AN SSSR, g. Moskva.
(Soil fauna)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515110008-0"

GILYAROV, M.S., doktor biolog.nauk, prof.

Role of row crop cultivation in lowering the number of wireworms. (MIRA 15:12)
Zashch.rast.ot vred.i bol. 7 no.6:25-26 Je '62.
(Moscow Province—Wireworms)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515110008-0"

GILYAROV, M.S.

Plant protection problems at the First Conference of the Zoologists of Pedagogic Institutes of the R.S.R.S.R. Zashch. rast. ot vred. i bol. 7 no.11:57 N '62. (MIRA 16:7)

GHILEAROV, M.S. [Gilyarov, M.S.]

A comparative and philogenetic analysis of the methods for the insemination of arthropods. Analele biol 16 no.5:42-77 S-O '62.

GILYAROV, M.S., prof.

Conference of zoologists in Vilnius. Vest.AN SSSR 32 no.8:77 Ag '62. (MIRA 15:8)

(Zoology—Congresses)

GILYAROV, M.S.

Fourteenth General Assembly of the International Association of Biological Sciences. Zool. zhur. 41 no.2:311-312 F '62.
(MIRA 15:4)
(Biological research--Congresses)

GILYAROV, M.S.

Larva of Dilar turcicus Hag. and the position of the family Dilaridae in the system of neuropterans (Planipennia). Ent. oboz. 41 no.2:402-416 '62. (MIRA 15:11)

1. Laboratoriya pochvennoy zoologii Instituta morfologii zhivotnykh AN SSSR, Moskva.
(Caucasus, Northern--Dilaridae)

GILYAROV, M.S.

"General problems of parasitology and zoology" by E.N.Pavlovskii. Reviewed by M.S.Giliarov. Zool. zhur. 41 no.3:468-471 Mr '62. (MIRA 15:3)

(Parasitology) (Zoology) (Pavlovskii, E.N.)

GILYAROV, M.S.

Toward the coming 16th International Zoological Congress. Zool. zhur. 41 no.7:1120 Jl '62. (MIRA 15:11)
(Zoology--Congresses)

GILYAROV, M.S.

Second Zoological Conference of the Lithuanian S.S.R. Zool. zhur. 41 no.10:1596-1598 O '62. (MIRA 15:12)
(Lithuania--Zoology--Congresses)

SEMENOVA, L.M., GILYAROV, Merkuriy S.

The evolution of arthropod cuticle.

Report to be submitted for the 16th International Zoology Congress
Washington, D.C., 20-27 Aug 63

IL'INSKAYA, Mariya Ivanovna; GILYAROV, M.S., otv. red.; MAMAYEV, B.M., red.izd-va; SIMKINA, G.S., tekhn. red.

[Pests of greenhouse plants] Vrediteli oranzhereinykh rastenii. Moskva, Izd-vo AN SSSR, 1963. 131 p. (MIRA 17:1)

GILYAROV, M.S., prof.

Studying plant protection in Finland. Zashch. rast. ot vred. i bol. 8 no.9:48-49 S '63. (MIRA 16:10)

1. Predsedatel' Moskovskogo otdeleniya Vsesoyuznogo entomologicheskogo obshchestva.

GILYAROV, M.S.; MAMAYEV, B.M.

Soil-inhabiting insects in irrigated areas of Uzbekistan. Zashch. rast. ot vred. i bol. 8 no.11:21-22 N '63. (MIRA 17:3)

1. Institut morfologii zhivotnykh imeni A.N.Severtsova.

GILYAROV, M.S., prof.

A symposium on the soil producing mites oribatoidea held at Moscow. Vest.AN SSSR 33 no.4:114 Ap '63. (MIRA 16:4)
(Soil microorganisms)

GILYAROV, M.S.

Zoological problems at the Second All-Union Congress of Soil Scientists.
Zool. zhur. 42 no.2:318 '63. (MIRA 16:3)
(Soil biology—Congresses)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515110008-0"

GILYAROV, M.S.

Tasks and future trends of controlled transformation of soil fauna. Zool. zhur. 42 no.4:481-499 '63. (MIRA 16:7)

1. Institute of Animal Morphology, Academy of Sciences of the U.S.S.R., Moscow.

(Soil fauna)

GILYAROV, M.S.

Brief news and information. Zool. zhur. 42 no.5:793-798 '63.
(MIRA 16:7)

1. Institut morfologii zhivotnykh Akademii nauk SSSR, Moskva.
(Finland--Zoological research)

GILYAROV, M.S.

Soil fauna as an indicator of the distribution of Brown soils in Kodry Moldavia. Zool. zhur. 42 no.8:1135-1146 '63. (MIRA 16:9)

1. Laboratory of Soil Zoology, Institute of Animal Morphology, Academy of Sciences of the U.S.S.R., Moscow.
(Kodry--Soil fauna) (Kodry--Soils)

GILYAROV, M.S., prof.

At the Section for General Entomology. [illegible]
i bol. 9 no.3:58-59 '64. (MIRA [illegible])

1. Predsedatel' sektsii obshchey [illegible] (for Gilyarov).
entomologicheskogo [illegible].

GILYAROV, M.S., prof.

Breaking down of poisonous chemicals in the soil. Zashch. rast. ot vred. i bol. 9 no. 4:54-55 '64. (MIRA 17:5)

1. Institut morfologii zhivotnykh im. Severtsova, Moskva.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515110008-0"

GILYAROV, M.S., prof.

12th International Congress of Entomology in London. Vest.
AN SSSR 34 no.12:72 D '64 (MIRA [illegible])

GILYAROV, M.S.

Basic trends in the adaptation of insects to life in a desert.
Zool. zhur. 43 no. 3:443-454 '64. (MIRA 17:5)

1. Institute of Animal Morphology, Academy of Sciences of U.S.S.R., Moscow.

ARNOL'DI, L.V.; GINZAROV, M.S., otv. red.

[Guide to the larvae of soil insects] Opredelitel' obitaiushchikh v pochve lichinok nasekomykh. Moskva, Nauka, 1964. 918 p. (MIRA 17:12)

1. Akademiya nauk SSSR. Institut morfologii zhivotnykh.

GILYAROV, M.S.; SHAROVA, I.Kh.

Soil fauna in the fir forests of the Pavlovskaya Sloboda region as an indicator of soil and forest conditions. Uch. zap. MGPI no.227:383-397 '64. (MIRA 18:11)

MAMAYEV, Boris Mikhaylovich; KRIVOSHEINA, Nina Pavlovna; GILYAROV, M.S., doktor biol. nauk prof., otv.red.

[Larvae of gall gnats (Diptera, Cecidomyiidae); comparative morphology, biology, taxonomic tables] Lichinki gallits (Diptera, Cecidomyiidae); sravnitel'naia morfologiia, biologiia, opredelitel'nye tablitsy. Moskva, Nauka, 1965. 276 p. (MIRA 18:3)

GILYAROV, M.S.; SEMENOVA, I.M. (Moskva)

Evolution of the cattle in Argentina. Usp. sovr. biol. 56 no.2, 208-227 S-O '63. (MIRA 17:5)

GILYAROV, M.S. (Moscow)

Modern concepts of homology. Usp. sovr. biol. 57 no.2:300-316 Mr-Ap '64. (MIRA 17:4)

GILYAROV, Merkuriy Sergeyevich

[Zoological method in soil diagnostics] Zoologicheskii metod diagnostiki pochv. Moskva, Nauka, 1965. [illegible] P. (MIRA 18:5)

MISHUSTIN, Ye.N.; GILYAROV, M.S.

Problems of soil biology at the 8th International Congress of Soil Scientists. Pochvovedenie no.5:85-88 My '65.
(MIRA 18:5)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515110008-0"

[illegible]

[illegible] ond Internat[illegible] congress on the pr[illegible] of plants held in Naples. [illegible] SSSR 35 no.7:68 [illegible].

(MIRA 18:8)

AKRAMOVSKIY, N.N.; GILYAROV, M.S.

Brief news and information. Zool. zhur. 44 no.9:1437-1440 '65. (MIRA 18:10)

GILYAROV, M.S.; NEGROBOV, V.P.

Brief news and information. Zool.zhur. 44 no.10:1589-1592 '65. (MIRA 18:11)

GILYAROV, N.P.

Use of aerodynamic models in the hydraulic investigation of rivers. Trudy LIIVT no.20:27-43 '53. (MIRA 12:1)
(Hydraulic models)

GILYAROV, N. P.

"Utilization of Rigid Aerodynamic Models in the Investigation of Rivers." Min River Fleet USSR, Leningrad Inst of Engineers of Water Transport, Leningrad, 1955. (Dissertation for the Degree of Candidate of Technical Sciences)

SO: M-972, 20 Feb 56

SOV/124-58-4-4143

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 4, p 65 (USSR)

AUTHOR: Gilyarov, N. P.

TITLE: Certain Questions of Principle in Connection With the Use of Aerodynamic Models of Rivers (Nekotoryye printsipial'nyye voprosy ispol'zovaniya aerodinamicheskikh modeley rek)

PERIODICAL: Tr. Leningr. in-ta inzh. vodn. transp., 1957, Nr 24, pp 31-41

ABSTRACT: In order to eliminate the distortion of the vertical distribution of velocities which results from the friction of the air flow in aerodynamic models against the glass which represents the free surface of the flow, the author suggests raising the glass in the model by a height of ΔH at which the velocity maximum along the vertical on the full-scale configuration and those in the model have the same numerical value and the same distance in relation to the bottom of the model bed. Thus the suggested method of model testing is based upon the acceptance for the purpose of the model test of only that depthwise part of the air flow lying between the bottom of the model bed and the vertical location of the velocity maximum. The upper part

Certain Questions of Principle (cont.)

of the stream under the glass participates in the working of the model, but is not taken into consideration for the purpose of calculation. For the determination of the relative coordinate η of the maximum velocity on the vertical velocity-distribution diagram the author presents a graph of η as a function of the ratio of the coefficient of roughness of the glass and the bottom of the model. Formulae are submitted for the conditions of kinematic similitude of a proposed stream in a model according to V. M. Makkaveyev also for scale ratios for slopes, depths, and velocities. At the end of the article the author gives a series of his arguments against the work of A. G. Averkiyev (Izv. Vses. n.-i. in-ta gidrotekhn., 1954, Vol 52), which contains a criticism of the author's method, and discusses A. G. Averkiyev's statements in detail.

1. Inland waterway models--Effectiveness 2. Inland waterway models--Performance

A. M. Latyshenkov

Card 2/2

PHASE I BOOK EXPLOITATION SOV/4130

Leningrad. Arkticheskiy i Antarkticheskiy nauchno-issledovatel'skiy institut

Problemy Arktiki i Antarktiki; sbornik statey, vyp. 2 (Problems of the Arctic and Antarctic; Collection of Articles, No. 2) Leningrad, Izd-vo "Morskoy transport," 1960. Errata slip inserted. 500 copies printed.

Additional Sponsoring Agency: USSR. Ministerstvo morskogo flota. Glavnoye upravleniye Severnogo Morskogo puti.

Resp. Ed.: V.V. Frolov; Editorial Board: L.L. Balakshin, A.A. Girs, P.A. Gordiyenko (Deputy Resp. Ed.), I.M. Dolgin, L.G. Kaplinskaya, A.A. Kirillov, Ye.S. Korotkevich, V.V. Lavrov, I.V. Maksimov, A.I. Ol', I.I. Poznyak, and B.V. Felisov; Tech. Ed.: L.P. Drozhzhina.

PURPOSE: The publication is intended for geographers, oceanographers, and readers interested in the Arctic and Antarctic regions.

Card 1/5

COVERAGE: This collection of 19 articles published by the Arctic and Antarctic Scientific Research Institute deals with ice conditions in the Arctic seas, ... atmospheric circulation and anticyclones, aurora phenomena, and methods of oceanographic observation. References follow the articles.

TABLE OF CONTENTS:

GILYAROV, N.P., kand.tekhn.nauk

Use of models in studying a large water junction on the Lena River. (MIRA 14:9)
Trudy LIIVT no.26:54-62 '59.
(Lena River) (Hydraulic models)

GILYAROV, N.P., kand.tekhn.nauk; MOROZOVA, O.F., inzh.

Resistances in the lower boundary of a self-simulating area during work with air models. Trudy LIVT no.7:17-22 '60. (MIRA 15:2)
(Aerodynamic models) (Hydrodynamics)

CHEKRENEV, A.I., doktor tekhn. nauk, prof.; ILINSKIY, V.A., dots. [deceased]; GRISHANIN, K.V., kand. tekhn. nauk, dots.; SELEZNEV, V.M., kand. tekhn.nauk; GILYAROV, N.P., dots., kand. tekhn. nauk; KOSTENKO, N.M., inzh.; Prinimali uchastiye: GRIGOR'YEV, S.N., inzh.; TEREKHOV, I.B., inzh.; KHIZHOV, B.M., inzh., red.; VOLCHOK, K.M., tekhn. red.

[Practical manual on channel improvement operations in inland waterways]Prakticheskoe posobie po proizvodstvu vypravitel'nykh rabot na vnutrennikh vodnykh putiakh. Leningrad, Izd-vo "Rechnoi transport," 1961. 275 p. (MIRA 16:2)

1. Russia (1917- R.S.F.S.R.)Glavnoye upravleniye vodnykh putey i gidrotekhnicheskikh sooruzheniy.
(Rivers--Regulation)

GRISHANIN, Kirill Vladimirovich; TUMANOV, V.V., retsenzent; GILYAROV, N.P., red.; VOLCHOK, K.M., tekhn. red.

[Hydraulics]Gidravlika. Izd.2., perer. Leningrad, Izd-vo "Rechnoi transport," 1962. 268 p. (MIRA 16:3)
(Hydraulics)

GILYAROV, N.P., kand. tekhn. nauk, dotsent

Structure of a rectangular cross-section open-channel flow in an area of unilateral, streamlined, coastal protection. Trudy LIVT no.16:17-21 '63

GILYAROV, N.P.; IVANOV, V.V.

Model study of the regime of the levels and currents of river mouths in the zone of sea influence. Trudy AANII 254:155-162 '63. (MIRA 17:11)

GILYAROV, N.P., kand.tekhn.nauk, dotsent

Structure of an open stream in the section of a unilateral streamlined bank projection in a channel of trapezoidal section. Trudy LIVT no.61:20-35 '64.

(MIRA 18:11)

ANTONOV, V.S.; GILYAROV, N.P.; IVANOV, V.V.

Experimental studies of the water regime of the Ob' Delta. Probl. Arkt. i Antark. no.20:23-30 '65. (MIRA 18:10)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515110008-0"

IVANOV, V.[illegible]; [illegible], [illegible]

Regime of the lower Yenisey [illegible] in the zone of sea influence. Trudy AANII [illegible]

([illegible] 8:3)

GILYAROV, N., kand. tekhn. nauk

Exploring the lower reaches and estuaries of the northern and Siberian rivers. Rech. transp. 24 no.5:50-51 '65. (MIRA 18:9)

KOCHETKOVA, A.P.; TRONEV, V.G.; GILYAROV, O.N.

Compounds of gallium with glycine. Zhur. neorg. khim. 6 no.7:1582-1585 Jl '61. (MIRA 14:7)
(Gallium compounds) (Glycine)

S/020/62/147/005/018/032
B117/B186

AUTHORS: Kochetkova, A. P., Tronev, V.G., Gilyarov, O.N.

TITLE: Complex indium compounds of lowest valencies. Synthesis and study of the properties of the ammoniates of indium monohalides

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 5, 1962, 1086-1089

TEXT: The reaction of indium monohalides with ammonia was studied in three states of aggregation: The reaction with gaseous NH_3 under a pressure of 3 - 4 atm ($t \approx 0^{\circ}C$) yields adducts of the composition $InM \cdot 2NH_3$, where M = I, Br. At 2 - 2.5 atm, one NH_3 molecule adds to the monohalides. The resulting monoammoniates and diammoniates are black substances which in solid form are insoluble in water, nitric and hydrochloric acids. They disproportionate into metallic In and In III under the action of water, and dissociate into InM and NH_3 under the action of acids. Heating of

Complex indium compounds of lowest ...

$InI \cdot NH_3$ to 120 - 150°C and of $InBr \cdot NH_3$ to 145°C causes their simultaneous dissociation into InM and NH_3 and disproportionation into $2In_{met}$ and the corresponding $InM \cdot 5NH_3$. Exothermic effects observed at 60 - 70°C and 40 - 50°C indicated transition into the more stable crystalline form of the compounds studied, since the composition and properties remained unchanged. When the pressure is increased to 6-8 atm, or if liquid NH_3 is used, disporportionation yields grayish black $InM \cdot 2NH_3$ products. $InM_3 \cdot NH_3$ were synthesized under the same conditions and studied thermographically to prove the composition of these products. Thus, trihalides yield $InM_3 \cdot 6NH_3$. Thermograms showed the decomposition of these products down to $InM_3 \cdot NH_3$, and fusion of metallic In. The presence of In_{met} in this reaction was also proved by X-ray analysis. The reaction of In_{met} with NH_3 sets in at the melting point of indium and shifts to the right in the thermogram at higher temperatures. The last exothermic effects at

Complex indium compounds of lowest ...

345 and 270°C correspond to the fusion of monohalides containing small amounts of In and ammoniates of In III, which do not take part in the reaction. Conclusion: The reaction of InM with NH_3 causes either addition or disproportionation, according to the conditions. The only products are monoammoniates and diammoniates. Compounds containing a larger number of NH_3 molecules were not obtained owing to disproportionation of In I into In_{met} and In III at higher ammonia pressures. There are 2 figures and 1 table.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N.S. Kurnakov of the Academy of Sciences USSR)

PRESENTED: July 16, 1962, by I.I. Chernyayev, Academician

SUBMITTED: July 4, 1962

44541
S/020/62/147/006/022/034
B144/B101

AUTHORS: Kochetkova, A. P., Tronev, V. G., Gilyarov, O. N.

TITLE: Complex low-valency indium compounds. Synthesis and study of the properties of indium dihalide ammines

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 6, 1962, 1373-1375

TEXT: Complex compounds having 6 NH_3 molecules (room temperature) and 8 NH_3 molecules (slightly below 0°C) are formed from In_2I_4 and In_2Br_4 molecules with gaseous NH_3 at a pressure of 3-4 atm by a synthesis method described earlier (DAN, 147, no.5 (1962)). These compounds disproportionate already when synthesizing: $In_2Hal_4 \cdot 6NH_3 + 2NH_3 = InHal \cdot 2NH_3 + InHal_3 \cdot 6NH_3$, or when heated to 60 - 85°C in an inert atmosphere with the separation of 2 NH_3 molecules from the complex compound having 8 NH_3 molecules, and with formation of $In_2Hal_4 \cdot 6NH_3$. Further

conversion is different in iodides and bromides: $In_2I_4 \cdot 6NH_3$ = $InI + InI_3 \cdot 5NH_3 + NH_3$ with an exothermic effect at 120°C; $In_2Br_4 \cdot 6NH_3$ = $InBr \cdot NH_3 + InBr_3 \cdot 5NH_3$ with an exothermic effect at 85°C. Ammine compounds of trivalent In decompose and react with InHal yielding dihalides as final products. Under exposure to air or water, metallic indium is formed. Complex compounds containing 6 and 8 NH_3 molecules are stable in an inert medium. These results, justify assuming a dimer structure with a metal - metal bond, in which In is tetravalent. On disproportionation the binding electron pair is shifted toward an In atom. The kind of amine determines the bond strength and thus also the tendency to disproportionate. This will make it possible to determine the valency of indium in complex compounds with the formal valency of 2. There are 1 figure and 1 table.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova (Institute of General and Inorganic Chemistry imeni N.S. Kurnakov)

Complex low-valency indium compounds ... S/020/62/147/006/022/034
B144/B101

PRESENTED: July 16, 1962, by I. I. Chernyayev, Academician

SUBMITTED: July 4, 1962

Card 3/3

4546
S/078/63/008/003/019/020
B117/B186

AUTHORS: Kochetkova, A. P., Tronev, V. G., Gilyarov, O. N.

TITLE: Compounds of indium with glycine

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 3, 1963, 772-774

TEXT: Glycine compounds of indium with the formula $In(GlH)_{3-n}Gl_nCl_{3-n}$ ($n = 0,1,2,3$) and of the compositions $In(GlH)_3Cl_3$, $In(GlH)_2GlCl_2$, and $InGl_3$ were synthesized by the method described for gallium (Zh.neorgan. khimii, 6, 1583 (1961)) and investigated. Their structure is similar to that of the corresponding gallium compounds and their heat resistance also increases analogously due to ring formation. Decomposition of $In(GlH)_3Cl_3$ starts below the melting point of glycine (255°C) at 160°C. Decomposition of $In(GlH)_2GlCl_2$ occurs at 255-265°C, and that of $InGl_3$ only at 285°C. Indium-nitrogen bonds are unstable in triglycinate and triglycino chlorides subjected to the action of gaseous ammonia under

Compounds of indium with glycine

S/078/63/008/003/019/020
B117/B186

pressure. In this respect, they differ from the corresponding gallium compounds. There is 1 figure.

SUBMITTED: August 16, 1962

GILYAROV, V. A.

"Dialkyl Anilide Phosphites, Their Properties and Tautomerism." Cand Chem Sci, Inst of Organic Chemistry imeni N. D. Zelinskiy, Acad Sci USSR, 21 Dec 54.
(VM, 9 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

USSR/Chemistry

Card : 1/1

Authors : Kabachnik, M. I. Memb. Corresp. of Acad. of Sc. USSR, and Gilyarov, V.A.

Title : Theory of tautomeric equilibrium. Structure and properties of dialkylanilidophosphites

Periodical : Dokl. AN SSSR, 96, Ed. 5, 991 - 994, June 1954

Abstract : Theoretical investigation of the problem regarding the dual reativity of tautomeric substances with strongly displaced equilibrium. The salt formation-reaction and the salt alkylation-reaction take place with regrouping which can be defined as the transition of the reaction center. Dialkyl anilidophosphites have all the properties of trivalent phosphorus derivatives and as such are capable of an Arbuzov type regrouping. Dialkylanilidophosphides are capable of forming sodium salts during the reaction of sodium in an ester or benzene solution. The constants of all substances obtained from such reaction are shown in table. Nine references. Table.

Institution : Acad. of Sc. USSR, Institute of Elementc-Organic Compounds
Submitted : March 13, 1954

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515110008-0"

"[illegible]mides of [illegible] Acid[illegible]"
[illegible] First Conference [illegible], Kazan,
[illegible] Dec 56

[illegible]: E-?,084,[illegible]

KABACHNIK, M.I.; GILYAROV, V.A.

Imides of alkylphosphoric acids. Trialkyl-N-phenylimidophosphates. Izv.AN SSSR Otd.khim.nauk no.7:790-797 Jl '56. (MLRA 9:10)

1.Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR.
(Phosphates)

KABACHNIK, M.I.; GILYAROV, V.A.

Imides of alkylphosphonic acids. Trialkylphosphate azines. Dokl. AN SSSR 106 no.3:473-475 Ja '56. (MLRA 9:6)

1.Chlen-korrespondent AN SSSR (for Kabachnik). 2.Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR.
(Azines)

AUTHORS: Kabachnik, M. I., Corresponding Member of the 20-114-4-28/63
Academy, Gilyarov, V. A.

TITLE: On Imides of Phosphorus Acids (Ob imidakh kislot). The Dialkylphosphoryl-N-Phenyltriazenes and Their Salts (Dialkilfosforil-N-feniltriazeny i ikh soli)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 4, pp. 781-784 (USSR)

ABSTRACT: In previous papers the authors had shown that the fullethers of the acids of 3-valent phosphorus enter into reaction with phenylazide and form imidophosphates. This reaction was proposed as characteristic of the derivatives of the said acids. It was of interest to study these reactions with the salts of the dialkylphosphites. According to several publications the phosphorus in them is 3-valent. The authors found that the free dialkyls do not react with phenylazide. Their salts however (triethylammonium and sodium salts) enter into reaction and form salts of the dialkyl-N-phenylphosphoryltriazenes. From these free dialkylphosphoryl-N-phenyltriazenes may be isolated, which are representatives of a new class of phosphor-nitrogen compounds. The formation of these salts may serve as

On Imides of Phosphorus Acids. The Dialkylphosphoryl-N-Phenyltriazenes and Their Salts 20 114-4-28/63

a confirmation of the previously expressed statement that the triazenes-III occur as an intermediate product in the reaction of the trialkylphosphites with phenylazide. The reaction with phenylazide takes place in the unseparated phosphorus-electron pair; in this respect it is analogous to the reaction with sulphur. However in the case of phenylazide the sodium salts react considerably faster than the ethylammonium salts. This difference was not observed in the case of sulphur. The physical properties, methods of isolation, yields, and results of analyses of the substances obtained are given. Apparently dialkylphosphoryl-N-phenyltriazenes are stronger acids than dialkylphosphites. This may be concluded from the fact that the reaction of the diethylphosphite with phenylazide does not take place in the presence of catalytic amounts of alcoholates. The experimental part gives a detailed description of the methods of producing several compounds of the group concerned. There are 2 tables and 6 references, 5 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR
(Institute for Elementary Organic Compounds of the AS USSR)

On Imides of Phosphorus Acids. The Dialkylphosphoryl-N-Phenyltriazenes and Their Salts 20 114-4-28/63

SUBMITTED: February 28, 1957

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"Imides of Acids of Phosphorus" (Imidy kislot fosfora)

Chemistry and Uses of Organophosphorous Compounds
(Khimiya i primeneniye fosfororganicheskikh soyedneniy),
Trudy of First Conference, 8-10 December 1955, Kazan,
pp. Published by Kazan Affil. AS USSR, 1957

275-282

5.3530

77059
SOV/62-59-12-13/43

AUTHORS: Kabachnik, M. I., Gilyarov, V. A., Tsvetkov, Ye. N.

TITLE: Concerning Imides of Phosphorus Acids. Infrared Absorption Spectra of Imidophosphates and Imidophosphonates

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 12, pp 2135-2141 (USSR)

ABSTRACT: The IR absorption spectra of trialkyl N-phenylimidophosphates (A) which were obtained previously by reaction of trialkylphosphites (M. I. Kabachnik, V. A. Gilyarov, Izv. AN SSSR. Otd. khim. n. 1956, 790) and dialkyl N-phenylimidoalkyl-(and -aryl) phosphonates (B) with phenyl azide, were investigated:

A. $(RO)_3P=NC_6H_5$; (I) R = C_2H_5; (II) R = C_3H_7; (III) R = C_4H_9; (IV) R = C_6H_5.

$$(RO)_3P + C_6H_5N_3 \rightarrow (RO)_3P=NC_6H_5 + N_2$$

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Concerning Imides of Phosphorus Acids. Infrared Absorption Spectra of Imidophosphates and Imidophosphonates

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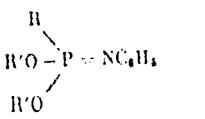

(V) R = CH_3; R' = i-C_3H_7
(VI) R = CH_3; R' = C_4H_9
(VII) R = C_2H_5; R' = C_3H_7

(VIII) R = C_2H_5; R' = C_4H_9; (IX) R = C_3H_7; R' = C_4H_9; (X) R = C_4H_9; R' = C_4H_9

(XI) R = C_6H_5; R' = C_3H_8; (XII) R = C_6H_5; R' = C_3H_7.

Most of the above compounds were synthesized for the present investigation by the reaction between dialkyl alkyl-(and aryl)-phosphonates and phenyl azide:

$$RP(OR')_2 + C_6H_5N_3 \rightarrow R(R'O)_2P = NC_6H_5 + N_2.$$

IR spectra of the above compounds have a strong absorption band at 1350-1385 cm^{-1}, which indicates the presence of the $\geq P = N$-group. The IR spectra of

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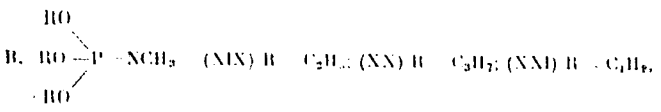
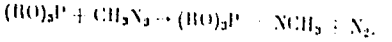
triethyl N-acetylimidophosphate (XIII) and trialkyl N-methylimidophosphates (C) were studied.

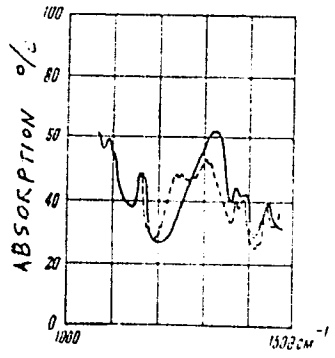


The above compounds were obtained by reaction of methyl azide with trialkyl phosphites.



In the IR spectrum of compound XIII, a strong absorption band at 1350 and 1385 cm^{-1} was observed. Compound XIX also shows strong absorption at 1325 cm^{-1}. On exposure to air, its intensity decreases and the

intensity of the band at 1250 cm^{-1} characteristic of P = O bond increases, thus indicating that the above compound is easily hydrolyzed.



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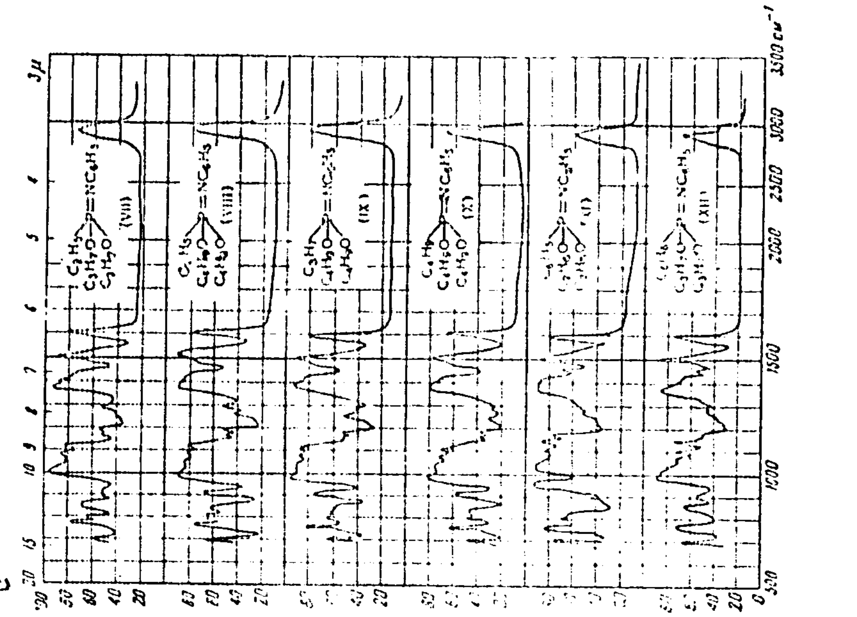

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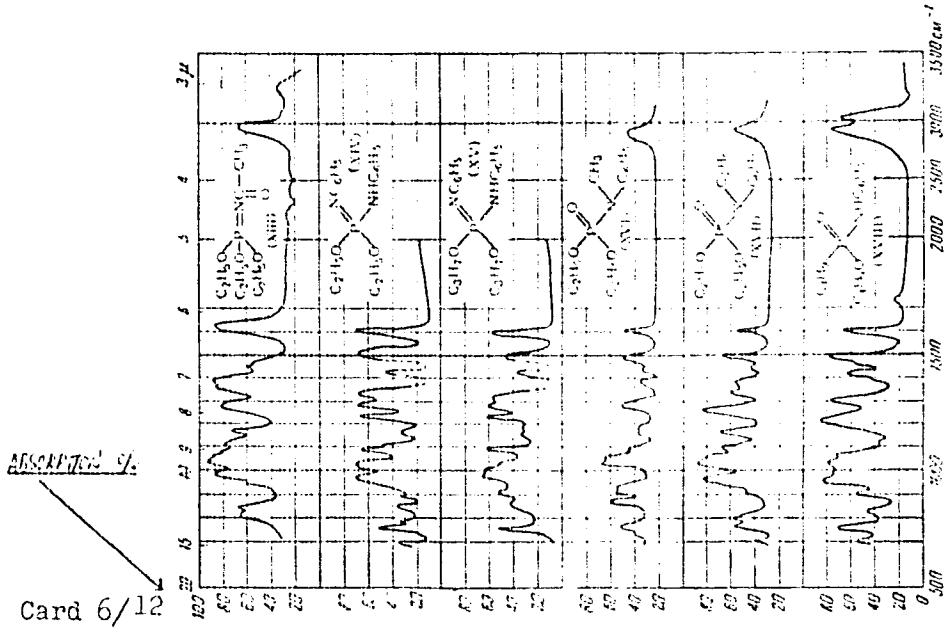

Card 6/12

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515110008-0"

Concerning Imides of Phosphorus Acid [illegible]

Infrared Absorption Spectra of Imido-phosphates and Imidophosphonates

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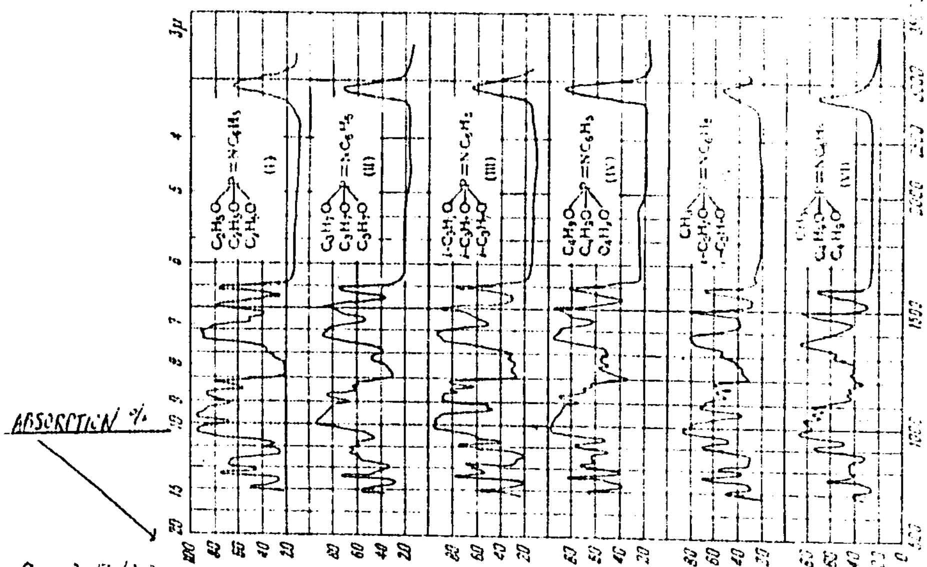
[illegible]-13/43



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IR spectra were taken on a double beam Dianov-Klokov spectrometer based on a IK-Spectrometer VIKS-MZ-N 11. The yields of obtained products are given below:

FORMULA	YIELD (%)	bp (PRESSURE IN mm)	n_D^{20}	d_4^{20}
$(C_4H_9O)_2P(NC_4H_4)(CH_3)$	66,7	107,5—108 (0,5)	1,5050	1,0066
$(C_4H_9O)_2P(NC_4H_4)(C_2H_5)$	53,0	102 (1)	1,5088	1,0185
$(C_4H_9O)_2P(NC_4H_4)(C_3H_7)$	66,3	117—118 (1)	1,5045	0,9965

(cont)

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Concerning Imides of Phosphorus Acids. Infrared Absorption Spectra of Imidophosphates and Imidophosphonates

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SOV/62-59-12-13/43

FORMULA	YIELD (%)	bp (PRESSURE in mm)	n_D^{20}	d_4^{20}
$(C_2H_5O)_2P(=NC_6H_5)C_6H_5$	61,5	123—124 (1)	1,5010	0,9907
$(C_2H_5O)_2P(=NC_6H_5)C_6H_5$	71,5	131—132 (1,5)	1,4990	0,9809
$(C_2H_5O)_2P(=NC_6H_5)C_6H_5$ CYCLO	85,0	148 (0,5)	1,5090	1,0150
$(C_2H_5O)_2P(=NC_6H_5)C_6H_5$	54	125 (1)	1,5708	1,1083
$(C_2H_5O)_2P(=NC_6H_5)C_6H_5$	72,0	127—129 (1)	1,5573	1,0770

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APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515110008-0"

Concerning Imides of Phosphorus Acids. Infrared Absorption Spectra of Imidophosphates and Imidophosphonates

77069
SOV/62-59-12-13/43

[M. I. Kabachnik, E. N. Tsvetkov, Dokl. AN SSSR, 117, 817 (1957)]; yield 87.2%; bp 77-78°; 1 mm pressure; n_D^{20} 1.4595; d_4^{20} 0.9284. Trialkyl N-methylimidophosphates are new compounds. The synthesis of tripropyl N-methylimidophosphate is given. Methyl azide was added to tripropyl phosphite dropwise in benzene. The evolution of N_2 was observed. The reaction mixture was cooled to 13-17°. On the next day, benzene was removed by distillation, and the residue was distilled twice under vacuum. Tripropyl N-methylimidophosphate was obtained in 50.8% yield. The yields of the obtained products (similarly prepared) are given below:

FORMULA	YIELD %	bp (PRESSURE mm)	d_4^{20}	n_D^{20}
$(C_2H_5O)_3P=NCH_3$	50,0	70,5–71,5 (7,5)	1,0018	1,4258
$(C_3H_7O)_3P=NCH_3$	50,8	8[illegible]–85 (3)	0,9696	1,4292
$(C_4H_9O)_3P=NCH_3$	55,0	92,5–94 (1)	0,9487	1,43[illegible]

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Concerning Imides of Phosphorus Acids. Infrared Absorption Spectra of Imidophosphates and Imidophosphonates

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SOV/62-59-12-13/43

Trialkyl N-methylimidophosphates are colorless liquids, easily hydrolyzed by water with formation of methylimides of dialkylphosphoric acids. They react with CS_2 as follows:

$$(RO)_2P=NCH_3 + CS_2 \rightarrow (RO)_2P=S + CH_3NCS$$

E. M. Popov, I. F. Lutchenko, V. N. Smorchkov, I. Ya. Kachkurova, I. V. Obreimov took part in this work. There are 4 figures; 2 tables; 12 references, 1 German, 2 U.S., 2 U.K., 7 Soviet. The 4 U.S. and U.K. references are: L. W. Daasch, J. Amer. Chem. Soc. 76, 3403, (1954); L. W. Daasch, D. C. Smith, Analyt. Chem. 23, 853 (1951); D. E. Corbridge, J. Appl. Chem. 6, 10, 456 (1956); D. E. Corbridge, E. J. Lowe, J. Chem. Soc. 1954, 4555.

Concerning Imides of Phosphorus Acids. Infrared Absorption Spectra of Imidophosphates and Imidophosphonates

77069
SOV/62-59-12-13/43

ASSOCIATION: Institute of Element-Organic Compounds, Academy of Sciences, USSR (Institut elementoorganicheskikh soedineniy Akademii nauk SSSR)

SUBMITTED: April 18, 1958

Card 12/12

KABACHNIK, M.I.; GILYAROV, V.A.

Imides of phosphorus acids. Report No.5: Reactions of trialkylphosphites with hydrazoic acid. Izv.AN SSSR.Otd.khim.nauk no.5: 816-818 My '61. (MIRA 14:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphorous acid) (Hydrazoic acid)

KABACHNIK, M.I.; GILYAROV, V.A.

Imides of phosphorus acids. Report No.6: Trialkyl-N-acylimido-phosphates. Izv.AN SSSR.Otd.khim.nauk no.5:819-823 My '61. (MIRA 14:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphoric acid)

KABACHNIK, M.I.; GILYAROV, V.A.; POPOV, Ye.M.

Imides of phosphorus acid. Report 7: Amideimidolic tautomerism of amides of pentavalent phosphorus acids. Izv.AN SSSR, Otd.khim.nauk no.6:1022-1030 Je '61. (MIRA 14:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphosus acids) (Amides)

KABACHNIK, M.I.; GILYAROV, V.A.; POPOV, Ye.M.

Tautomerism of phosphamidines. Zhur.ob.khim. 32 no.5:1598-1604 My '62. (MIRA 15:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphorus acids) (Amidines) (Tautomerism)

GILYAROV, V.A.

"Tautomerism of certain imides of phosphorus acids."

Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and application of organophosphorus compounds) A. E. Arbuzov, ed. Publ. by Kazan Affil. Acad. Sci. USSR, Moscow 1967. [illegible]

Collection of complete papers presented at the [illegible] Chemistry of Organophosphorus Compounds.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515110008-0"

GILYAROV, V.A.

Reaction of salts of dialkylphosphorus acids with diazomethane."

Khimiya i primeneniye fosfororganicheskikh [illegible] (Chemistry and application of organophosphorus compounds; A. [illegible] publ. by Kazan Affil. Acad. Sci. USSR, Moscow 1962 [illegible]

Collection of complete papers presented at the [illegible] Chemistry of [illegible] phorus Compounds.

KABACHNIK, M.I.; GILYAROV, V.A.; CHZHAN CHZHEN-DE[Chang Cheng-tieh]; MATROSOV, Ye.I.

Problem of tautomerism of N-acylamidophosphates and N-acylamidophosphinates. Izv.AN SSSR.Otd.khim.nauk no.9:1589-1599 S '62. (MIRA 15:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphoramidic acid) (Phosphinamidic acid) (Tautomerism)

L 1131-66 EWT(m)/EPF(c)/EWP(j) m:

ACCESSION NR: AP5022927 UR/0062/65/000/008/1331/1336
543.422 + 661.718.1

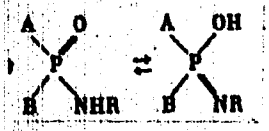
AUTHOR: Matrosov, Ye. I.; Gilyarov, V. A.; Kabachnik, M. I.

TITLE: About amido-imido-tautomerism of N-phosphorylamidophosphates and phosphines

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1965, 1331-1336

TOPIC TAGS: amide, imide, tautomerism, N-phosphorylamidophosphate, phosphine, IR spectroscopy

ABSTRACT: The amido-imido tautomerism of amides of acids of pentavalent phosphorus,



was investigated by IR spectroscopy. The IR absorption spectra of N-phosphoryl-imidophosphates and phosphines are shown in fig. 1 of the Enclosure. The IR absorption spectra of N-phosphorylamidophosphates and phosphines are shown in fig. 2 of the Enclosure. For the compounds in question, vibrational frequencies corre-

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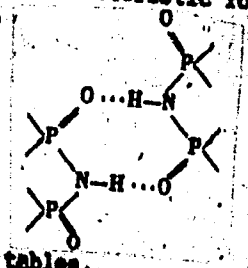
ACCESSION NR: AP5022927

sponding to P = N group occur in the 1296-1338 cm^{-1} region and those corresponding to P = O group occur in the 1210-1258 cm^{-1} region. The IR spectra indicate an amide type structure of the N-phosphorylamidophosphates and phosphines. The phosphoryl group may form a strong hydrogen bond to the NH-groups and, thus, cause a strong shift of the bond corresponding to N-H vibration toward wave numbers shorter than 3100 cm^{-1}. As a result, the absorption band characteristic for N-H vibration in N-phosphorylamidophosphates and phosphines,



occurs at 2700 cm . Orig. art. has: 2 figures, 2 tables.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds, Academy of Sciences, SSSR)

SUBMITTED: 11Jan65 ENCL: 02 SUB CODE: GC, OC

NO REF SOV: 005 OTHER: 002

Card 2/4

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515110008-0"

L 1131-66

ACCESSION NR: AP5022927

ENCLOSURE: 01

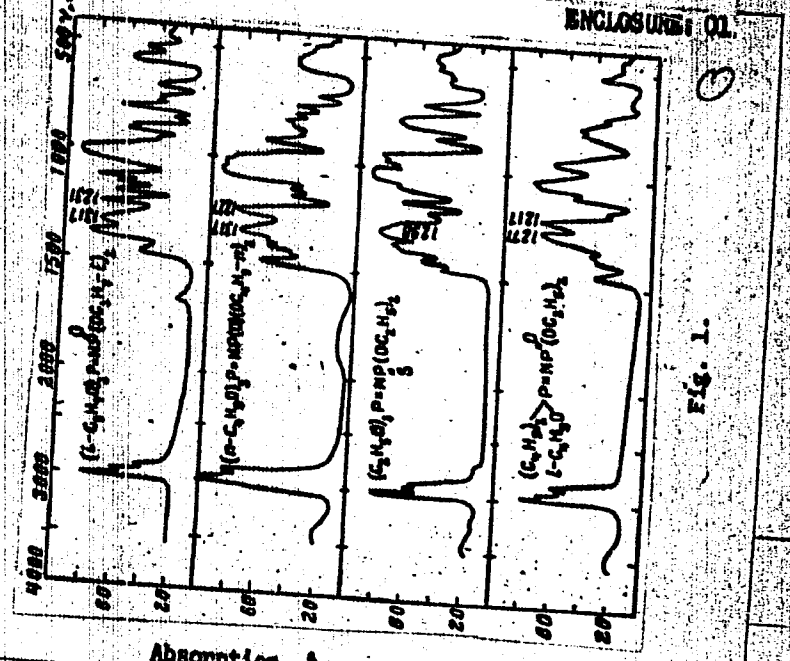


Fig. 1.

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L 7131-66

ACCESSION NR: AP5022927

ENCLOSURE: 02

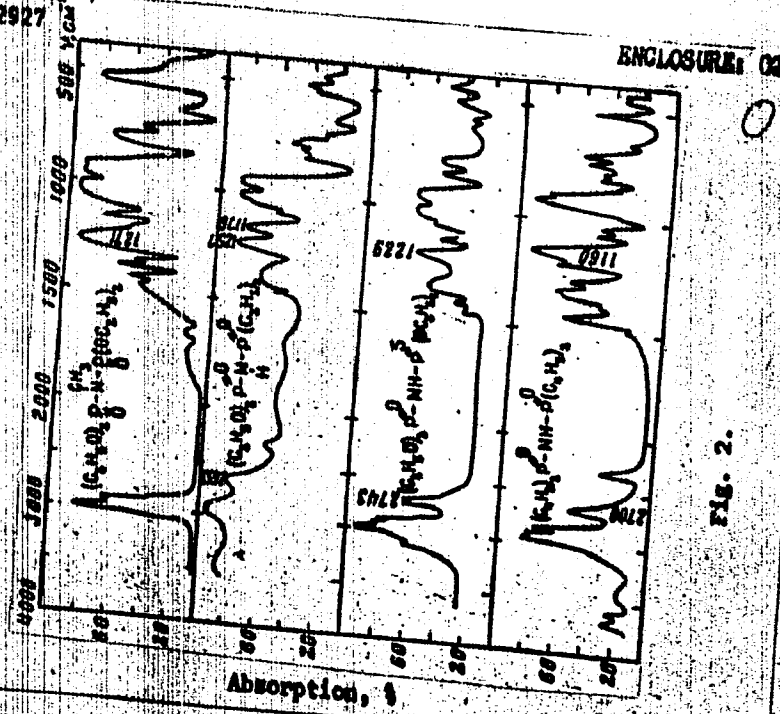

Fig. 2.

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